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REMARKS

Pending Claims

Claims 1-21 and 29 have been amended in order to expedite the prosecution of this application. In particular, for each of these claims, the term "modified" has been deleted. In addition, claims 1, 2, 4, 8, 9, and 20 the recitation for each of the specific groups shown for the structures of the attached steric group has been amended. Each of these amendments is fully supported by the present specification and claims as originally filed. Support for the amendment to claim 1 can be found, for example, on page 3, lines 15-19. Support for the amendments to 2 can be found, for example, on page 5, line 30 to page 6, line 20. Support for the amendment to claim 4 can be found, for example, on page 6, lines 29-30. Support for the amendment to claim 8 can be found, for example, on page 7, lines 20-33. Support for the amendment to claim 9 can be found, for example, on page 7, lines 7-17. Support for the amendments to claim 20 can be found, for example, on page 8, lines 1-18. Thus, no new matter has been added. Claims 1-27 and 29-31 are pending in the present application.

Summary of the Invention

The present invention relates to a pigment product comprising a pigment having attached a) at least one steric group and b) at least one organic ionic group with at least one amphiphilic counterion. The counterion has a charge opposite to that of the organic ionic group. Also disclosed are various process for preparing the pigment product as well as various compositions comprising the pigment products.

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Rejection of Claims 1-27 and 29-31 under 35 U.S.C. § 112, Second Paragraph

The Examiner has rejected claims 1-27 and 29-31 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

On page 2 of the Final Office Action, the Examiner maintains the rejections discussed on pages 3-7 of the previous Office Action mailed March 22, 2004. In this previous Office Action, the Examiner describes various phrases and expressions that the Examiner considers vague and indefinite. Each of these will be discussed separately below.

Claim 1

On page 4 of the previous Office Action, the Examiner states that the phrases "product comprising" and "product comprises" are vague and indefinite since the product or the pigment may contain additional components whereas the expression "a modified pigment product" would mean a single product. The Examiner states that an appropriate correction is required.

Also on page 4 of the previous Office Action, the Examiner states that the phrase "a modified pigment comprising a pigment having attached a) at least one steric group and b) at least one organic ionic group and at least one amphiphilic counterion" is vague and indefinite since, with respect to spatial arrangement, the claim does not describe how the pigment is connected to each of these groups. The Examiner states that an appropriate correction is required.

Applicant respectfully disagrees. Regarding the phrases "product comprising" and "pigment comprises", it is known in the art that a pigment is not a single product, as stated by the Examiner, but rather may contain various additional components included along with the specific colorant species. Thus, a pigment may not be a single product but instead may be a composition that includes the pigment. For this reason, Applicant has used the phrases "pigment product comprising a pigment" as well as the phrase "the pigment comprises" in claim 1. Applicant believes the terms "comprising" and "comprises" in claim 1 relating to the pigment product and pigment do not render this claim vague and indefinite but rather describe the

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inventive compositions in a manner that is clear and consistent with the art. Applicant therefore respectfully requests that this rejection be withdrawn.

Regarding the spatial arrangement of the pigment and the recited groups, claim 1 clearly states that the pigment has two types of attached groups. One is a steric group and the other is organic ionic group having an amphiphilic counterion. This is also clearly described in the present application (for example, see page 3, lines 15-19). Thus, Applicant believes that the arrangement of these groups in relation to each other and to the pigment is not ambiguous. However, in order to more clearly define the pigment product of the present invention, Applicant has amended claim 1 to recite that the second type of attached group is an organic ionic group "with" at least one amphiphilic counterion. Applicant therefore believes that this claim clearly describes the spatial arrangement of the specified groups and respectfully requests that this rejection be withdrawn.

Claim 29

On page 4 of the previous Office Action, the Examiner states that the phrases "a printing plate comprising" and "a radiation-absorptive layer comprises" are vague and indefinite since the printing plate and the radiation-absorptive layer may contain many additional components while the expression "a printing plate" would mean a single product. The Examiner states that an appropriate correction is required.

Applicant respectfully disagrees. It is well known in the art that printing plates can contain a variety of different components including various types of layers, including those described, for example, on page 21, lines 7-12 of the present specification. Each layer also contains various ingredients, including those describe, for example, on page 21, lines 12-14 of the present specification. Thus, both a printing plate and the layers of the plate are compositions that do in fact contain many additional components. For this reason, Applicant has used the phrases "a printing plate comprising" and "a radiation-absorptive layer comprises" in claim 29 in order to be clear and consistent with the use of these terms in the art. Applicant therefore respectfully requests that this rejection be withdrawn.

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Claim 2

On page 5 of the previous Office Action, the Examiner states that the term "comprises" used in relation to the steric group and Nlon is vague and indefinite since the meaning of the meaning of this term is that both of these groups may contain many additional components. The Examiner states that an appropriate correction is required.

While Applicant believes the use of the term "comprises" in claim 2 is appropriate and does not render this claim vague and indefinite, in order to advance the prosecution of this application, Applicant has amended this claim to recite "said steric group has the formula" and "Nlon represents". Applicant therefore respectfully requests that this rejection be withdrawn.

Claim 4

On page 5 of the previous Office Action, the Examiner states that the phrase "non-ionic group further comprises" is vague and indefinite since the meaning of this phrase is that the non-ionic group may contain many additional components while the expression "the non-ionic group" would mean a single product. The Examiner states that an appropriate correction is required.

While Applicant believes the use of the phrase "further comprises" in claim 4 is appropriate and does not render this claim vague and indefinite, in order to advance the prosecution of this application, Applicant has amended this claim to recite "said nonionic group is substituted with a functional group". Applicant therefore respectfully requests that this rejection be withdrawn.

Claim 8

On page 5 of the previous Office Action, the Examiner states that the phrases "steric group comprises", "X comprises", and "R comprises" are vague and indefinite since the meaning of each of these phrases is that the steric group, X, and R may contain additional components. The Examiner states that an appropriate correction is required.

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While Applicant believes the use of the term "comprises" in claim 8 is appropriate and does not render this claim vague and indefinite, in order to advance the prosecution of this application, Applicant has amended this claim to recite "said steric group has the formula". Also, regarding X, Applicant has replaced the term, "comprises" with the term "is" and further defined X as described in the present specification. Finally, regarding R, Applicant has deleted the term "comprises" and further defined R as described in the present specification. Applicant therefore respectfully requests that this rejection be withdrawn.

Claim 9

On page 6 of the previous Office Action, the Examiner states that the phrases "steric group comprises" and "X comprises" are vague and indefinite since the meaning of each of these phrases is that the steric group and X may contain additional components. The Examiner states that an appropriate correction is required.

While Applicant believes the use of the term "comprises" in claim 9 is appropriate and does not render this claim vague and indefinite, in order to advance the prosecution of this application, Applicant has amended this claim to recite "said steric group has the formula". Also, regarding X, Applicant has replaced the term, "comprises" with the term "is" and further defined X, as described in the present specification. Applicant therefore respectfully requests that this rejection be withdrawn.

Claim 20

On page 6 of the previous Office Action, the Examiner states that the phrases "steric group comprises", "X comprises", "polymer comprises", "R comprises", and "monomer groups that comprise" are vague and indefinite since the meaning of each of these phrases is that the steric group, X, polymer, R, and the monomer groups may contain additional components. The Examiner states that an appropriate correction is required.

While Applicant believes the use of the term "comprises" in claim 20 is appropriate and does not render this claim vague and indefinite, in order to advance the prosecution of this

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application, Applicant has amended this claim to recite "said steric group has the formula". Also, regarding X, Applicant has replaced the term, "comprises" with the term "is" and further defined X as described in the present specification. A similar amendment was made in relation to the group X'. Regarding R, Applicant has deleted the term "comprises" and further defined R as described in the present specification. Regarding the group "polymer", Applicant has replaced the term "comprises" with the phrase "represents a polymeric group having" as described in the present specification. Finally, regarding the monomer groups, Applicant has replaced the phrase "that comprise" with "of" to more clearly define the invention. Applicant therefore respectfully requests that this rejection be withdrawn.

Spacer group

On page 6 of the previous Office Action, the Examiner states that the term "spacer group" in claims 2, 8, 9, and 20 is vague and indefinite since the claim does not describe what types of space groups are employed in the claimed structure. The Examiner states that an appropriate correction is required.

Applicant respectfully disagrees. While the term "spacer group" may not be a standard type of chemical group often used in a structural formula, the present specification clearly describes what is meant by "spacer group" (for example, see page 6, lines 3-4). Thus, Applicant believes there is nothing vague or indefinite about this group. However, in order to advance the prosecution of this application, Applicant has amended claims 2, 8, 9, and 20 to further define the spacer group consistent with the disclosure in the present specification (see page 6, lines 4-7). Applicant therefore respectfully requests that this rejection be withdrawn.

Functional group

On page 6 of the previous Office Action, the Examiner states that the term "a functional group" is vague and indefinite since the claim does not describe what types of functional groups are employed in the claimed structure. The Examiner states that an appropriate correction is required.

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Applicant respectfully disagrees. The term "functional group" is a very common term used in chemical structures and would be readily recognized and understood in the art. Furthermore, this term is defined in the present specification and exemplified by a long list of possible groups (see page 6, lines 24-26 and page 6, line 29 to page 7, line 7). Applicant believes that it is unnecessarily restrictive to limit this claim to only these exemplified groups, especially since the term "functional group" is so widely used and understood. Applicant therefore respectfully requests that this rejection be withdrawn.

Polymer

On page 7 of the previous Office Action, the Examiner states that the term "polymer" is vague and indefinite since the claim does not describe what types of polymers are employed in the claimed structure. The Examiner states that an appropriate correction is required.

Applicant respectfully disagrees. The term "polymer" is a very common term used in chemical structures and would be readily recognized and understood in the art. Furthermore, this term is defined in the present specification and exemplified by a long list of possible types of polymers (see page 8, line 19 to page 9, line 19). Applicant believes that it is unnecessarily restrictive to limit this claim to only these exemplified classes or specific types of polymers, especially since the term "polymer" is so widely used and understood. Applicant therefore respectfully requests that this rejection be withdrawn.

Based on the above, Applicant therefore believes that claims 1-27 and 29-31 are not indefinite and respectfully requests that this rejection be withdrawn.

Rejection of Claims 1-21 under 35 U.S.C. § 112, Second Paragraph

The Examiner has rejected claims 1-21 and its dependent claims as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

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On page 3 of the Final Office Action, the Examiner states that, in claims 1-21, the phrases "a modified pigment product", "one steric group", "one organic ionic group", and "one amphiphilic group" are unclear since the claims does not describe how the pigment is modified and what the specific examples for "one steric group", "one organic ionic group", and "one amphiphilic group" can be for the final structure for the modified pigment product. The Examiner states that an appropriate correction is required.

On page 3 of the Final Office Action, the Examiner also states that, in claim 2, the phrase "R comprises" is vague and indefinite since the meaning of this phrase is that R may contain many additional components. The Examiner states that an appropriate correction is required.

Applicants respectfully disagree. Regarding the term "modified", Applicant believes that this term is clear and well understood in the art. Also, methods of modifying are described in detail throughout the present specification (for example, see page 14, line 33 to page 17, line 30 as well as the Examples). Furthermore, claim 1 is a product claim and not a product by process claim. Thus, Applicant believes it is not necessary to recite "how" the pigment is modified. Rather, the term "modified" is used to distinguish the pigment product from the pigment that comprises it. However, in order to advance the prosecution of this application, Applicant has amended claims 1-21 by deleting the term "modified" from the claim's preamble. Claim 29 has been amended in a similar way. Therefore, Applicant respectfully requests that this rejection be withdrawn.

Regarding the terms "one steric group", "one organic ionic group", and "one amphiphilic group", Applicant believes there is no need to recite specific examples for each of these groups. The modified pigment product of claim 1 is not defined by a chemical structure but instead is defined by the properties of the groups that are attached. As recited in claim 1, the modified pigment product has two types of attached groups - a steric group and an organic ionic group with an amphiphilic counterion. Each of the descriptive terms used to define the properties of the attached groups - steric, ionic, and amphiphilic - are properties that are very well known and understood in the art. These terms are also further described in detail in the present specification.

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For example, the term "steric" is a property that is well known in the art and is described as having "the ability to be steric or promoting steric hindrance" (see page 5, lines 27-28). Specific preferred chemical structures are disclosed throughout the specification to further exemplify groups having this "steric" property. Regarding the term "ionic", this is also a well understood property that is further described in the specification as referring to the property of being either "anionic or cationic in nature" (see page 9, lines 30-31). A large number of specific structures are disclosed throughout the specification to further exemplify organic groups having this "ionic" property (see page 9, line 30 to page 11, line 6). Finally, the term "amphiphilic" is a well known property and is defined in the specification as the property of "having a hydrophilic polar 'head' and a hydrophobic organic 'tail'" (see page 11, lines 7-8). The counterion may be "cationic or anionic in nature" (see page 11, lines 8-9). Furthermore, a large number of specific structures are shown in order to exemplify groups having this "amphiphilic" property (see page 11, line 7 to page 13, line 10). Thus, Applicant believes that the phrases identified by the Examiner are clear since the properties of the attached groups are defined and each of these properties - steric, ionic, and amphiphilic - are very well known and understood in the art and are also further defined in the specification. Applicant therefore respectfully requests that this rejection be withdrawn.

Finally, regarding the phrase "R comprises" in claim 2, as discussed in more detail above for the use of the same phrase in claims 8, 9, and 20, while Applicant believes the use of the term "comprises" in claim 2 is appropriate and does not render this claim vague and indefinite, in order to advance the prosecution of this application, Applicant has deleted the term "comprises" and further defined R as described in the present specification. Applicant therefore respectfully requests that this rejection be withdrawn.

Applicant therefore believes that claims 1-21 and claims dependent therefrom are clear and not indefinite and respectfully requests that this rejection be withdrawn.


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Conclusions

Applicant believes that the present claims are in good and proper form for allowance. Therefore, the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would further expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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